

Claims:

1. An enhanced frame structure for transmitting and receiving wireless data signals as a plurality of frames, comprising:

an initial frame structure containing at least two fields, each of said fields having a field synchronization segment followed by a plurality of initial frame structure data segments; and

a first or more modified frame structures containing at least two fields, each of said fields having a field synchronization segment followed by at least a plurality of first modified frame structure data segments that is less than the plurality of initial frame structure data segments.

2. The enhanced frame structure of claim 1 comprising a second modified frame structure containing at least two fields, each of said fields having a field synchronization segment followed by a plurality of second modified frame structure data segments that is less than the plurality of the first modified frame structure data segments.

3. The enhanced frame structure of claim 2 further comprising a third modified frame structure containing at least two data fields, each of said data fields having a field synchronization segment followed by a plurality of third modified frame structure data segments that is less than the plurality of the second frame structure data segments.

4. The enhanced frame structure of claim 3 further comprising a fourth modified frame structure containing at least two data fields, each of said data fields having a field synchronization segment followed by a plurality of fourth modified frame structure data segments that is less than the plurality of the third frame structure data segments.

5. The enhanced frame structure of claim 4 further comprising a fifth modified frame structure containing at least two data fields, each of said data fields having a field synchronization segment followed by a plurality of fifth

modified frame structure data segments that is less than the plurality of the fourth frame structure data segments.

6. The enhanced frame structure of claim 1 wherein the plurality of first modified frame structure data segments is 156.
7. The enhanced frame structure of claim 2 wherein the plurality of second modified frame structure data segments is 104.
8. The enhanced frame structure of claim 3 wherein the plurality of third modified frame structure data segments is 52.
9. The enhanced frame structure of claim 4 wherein the plurality of fourth modified frame structure data segments is 24.
10. The enhanced frame structure of claim 5 wherein the plurality of fifth modified frame structure data segments is 12.
11. The enhanced frame structure of claim 1 wherein the wireless data signals are digital television signals.
12. A method for utilizing an enhanced frame structure for the broadcast of wireless data signals comprising:
 - conducting a site survey of the area to receive said signals;
 - selecting an appropriate training sequence signal mode of the enhanced frame structure selected from the group consisting of a mode for an initial frame structure and a mode for a first or more modified frame structures;
 - programming a system for broadcasting said signals with said selected training sequence signal mode;
 - operating said system to broadcast said signals;
 - conducting a field test; and
 - adjusting the training sequence signal mode according to the results of the field test.

13. The method of claim 12 wherein the step of selecting an appropriate training sequence signal mode results in a digital television transmission having an enhanced frame structure that comprises at least two fields, each of said fields having a field synchronization segment containing a training sequence signal followed by a plurality of modified frame structure data segments that are less in quantity than a plurality of frame structure data segments of the initial frame structure.

14. The method of claim 13 wherein the plurality of modified frame structure data segments may be selected from the group consisting of 156 data segments, 104 data segments, 52 data segments, 24 data segments, and 12 data segments.

15. The method of claim 12 wherein the wireless data signals are digital television signals.

16. A method for utilizing an enhanced frame structure for the broadcast of wireless data signals comprising:

- programming a system to deliver the wireless data signals in an initial transmission mode;
- operating said system;
- collecting feedback from the system; and
- adjusting the initial transmission mode according to said feedback to alter the frame structure to an enhanced frame structure, wherein a plurality of frame structure data segments of the enhanced mode is less than a plurality of frame structure data segments of the initial transmission mode.

17. The method of claim 16 wherein the wireless data signals are digital television signals.

18. The method of claim 16 wherein the mode can be selected to enhance the frame structure data segment plurality to a number selected from a group

consisting of 156 data segments, 104 data segments, 52 data segments, 24 data segments, and 12 data segments.

19. The method of claim 16 wherein the adjusting step is performed by selecting an option from the group consisting of by the system self-adjusting to automatic feedback and manually by system operators selecting a new mode.

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